

Kenji HORIUCHI et al.

Docket No. 011779

REMARKS

The above amendment is believed to place the claims in proper condition for examination.

Early and favorable action is awaited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In the event there are any additional fees required, please charge our Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



Atty. Docket No. 011779
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
Tel: (202) 659-2930
DWH/yap

Donald W. Hanson
Reg. No. 27,133

BEST AVAILABLE COPY

Kenji HORIUCHI et al.

Docket No. 011779

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The following claims have been amended as follows:

3. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 1 ~~or claim 2~~, wherein said diode-structure diamond ultraviolet light-emitting device comprises a pn junction.

4. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 1, ~~2 or 3~~, wherein both said diamond crystals are high-quality crystals including only a minute amount of impurity other than the dopant.

5. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 1, ~~2, 3 or 4~~, wherein said n-type diamond crystal is a diamond crystal doped with phosphorous.

6. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 1, ~~2, 3 or 4~~, wherein said n-type diamond crystal is a diamond crystal doped with sulfur.

7. (Amended) A diode-structure diamond ultraviolet light-emitting device according to ~~any one of claims 1 through 6~~ claim 1, wherein said n-type diamond crystal is a diamond crystal grown by the a chemical vapor deposition method.

BEST AVAILABLE COPY

Kenji HORIUCHI et al.

Docket No. 011779

8. (Amended) A diode-structure diamond ultraviolet light-emitting device according to ~~any one of claims 1 through 7~~ claim 1, wherein said p-type semiconductor diamond crystal is a diamond crystal doped with boron.

10. (Amended) A diode-structure diamond ultraviolet light-emitting device according to ~~any one of claims 1 through 9~~ claim 1, wherein said p-type semiconductor diamond crystal is a crystal synthesized by ~~the~~ a high temperature and high pressure synthesis method.

12. (Amended) A diode-structure diamond ultraviolet light-emitting device according to ~~any one of claims 1 through 9~~ claim 1, wherein said p-type semiconductor diamond crystal is a diamond crystal grown by ~~the~~ a chemical vapor deposition method.

13. (Amended) A diode-structure diamond ultraviolet light-emitting device according to ~~any one of claims 7 through 12~~ claim 7, wherein said diamond crystal grown by the chemical vapor deposition method is a homoepitaxial film grown homoepitaxially on a diamond crystal substrate.

14. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 7, ~~claim 12 or claim 13~~; wherein said diamond crystal grown by chemical vapor deposition method is a diamond crystal film grown by the microwave plasma-assisted chemical vapor deposition method.

Kenji HORIUCHI et al.

Docket No. 011779

15. (Amended) A diode-structure diamond ultraviolet light-emitting device according to any one of claims 1 through 11 claim 1, said device comprising a p-type semiconductor diamond crystal synthesized by ~~the~~ a high temperature and high pressure synthesis method, and a n-type diamond crystal grown on said p-type semiconductor diamond crystal by ~~the~~ a chemical vapor deposition method.

16. (Amended) A diode-structure diamond ultraviolet light-emitting device according to any one of claims 1 through 9 or claims 12 through 15 claim 1, wherein a first diamond crystal grown by ~~the~~ a chemical vapor deposition method is formed on a diamond substrate, and a second diamond crystal grown by ~~the~~ a chemical vapor deposition method is further formed thereon.

18. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 16 ~~or 17~~, wherein said second diamond layer grown by the chemical vapor deposition method is grown selectively on said first diamond layer grown by the chemical vapor deposition method.

19. (Amended) A diode-structure diamond ultraviolet light-emitting device according to claim 16, ~~17 or 18~~, wherein an electrode is formed on the exposed surface of said first diamond layer grown by the chemical vapor deposition method.

BEST AVAILABLE COPY